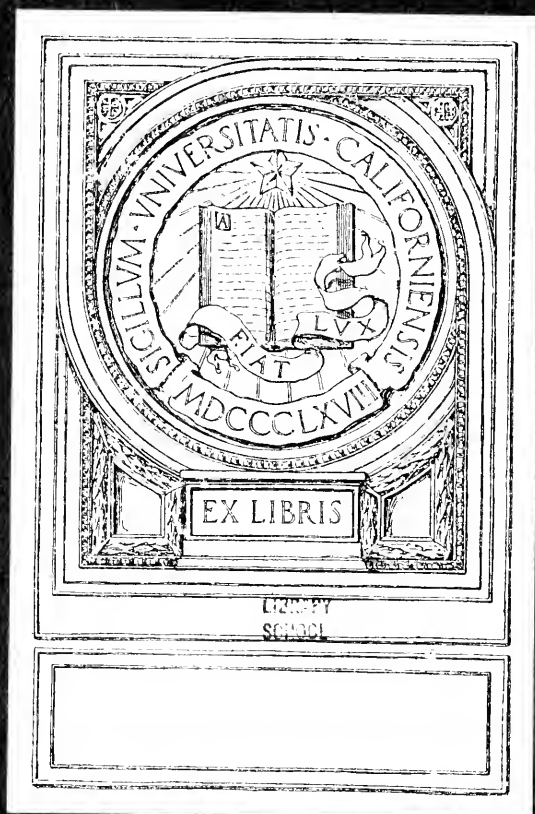


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HOW TO FIGURE TYPE COMPOSITION BY KNOWN FACTORS

A NEW, EASY, AND LABOR-
SAVING METHOD OF FINDING
THE NUMBER OF EMS IN ANY FORM OF TYPE MATTER
ALSO REFERENCE TABLES, WEIGHT OF LINOTYPE
COMPOSITION, AND OTHER INFORMATION OF VALUE
TO PRINTERS, PUBLISHERS, AND PRINTING BUYERS

By Martin Heir

HEIR PUBLISHING COMPANY
Box 274, Evanston, Illinois

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INTRODUCTION

THIS booklet, in bringing out a new, time-saving and absolutely reliable method for finding the number of ems in the type page or any other form of type matter, is intended as a message of cheer and relief to those who have been struggling with this tiresome and somewhat intricate problem by the use of the methods now prevailing.

The method here offered is so simple and easy that it can be mastered by any one with a knowledge of the rudiments of multiplication; and it is so time-saving and reliable that the type contents of the biggest page can be found in a minute to the fraction of an em. We readily admit that this is a somewhat bold and broad statement that hardly will pass without proof. We hasten, therefore, to assure everybody concerned that this is not an attempt to market a freak idea, nor is it the result of a desire to add another untried experiment to the world's abundant supply. No, indeed not. For, although this method is simplicity itself, it is built on the time-honored mathematical principle of equivalents as taught in every school the world over where mathematics is included in the curriculum, and daily practiced by every engineer as long as history can record. It can therefore be claimed without fear of contradiction that it has a reasonably sound foundation.

Besides, and to give the printer and printing buyer still less reason to waste energy on calculations, a series of reference tables have been appended showing the number of ems in nearly every type page imaginable in all type bodies in common use. These tables have been arranged in such a manner that no matter how many type bodies a page or galley contains, the actual number of ems in such page or galley can be determined with as much ease and as quickly as if the page or galley had contained a single type body.

By reason of the rules in force in machine composition offices in different cities of charging nothing less than twenty ems to the line of the type set for all machine composition, it has been found necessary to give both the actual number of ems to the line and the number of ems according to this rule for all measures up to 14 ems of 8 point and 17 ems of 10 point. (See appended rules for machine composition.)

NOTE—It must be understood that the method here brought forth will give the actual number of ems in the page or galley, and therefore does not admit of any arbitrary addition or deduction. The aim has been to substitute mathematical correctness for uncertain guesswork. Every em in the page or galley is accounted for, no more and no less.

THE AUTHOR.

Extract from an Article in the American Printer for March, 1914:

"With a rule or tape graduated to inches any one can readily ascertain the number of ems of any body size a page contains. It is better to use square ems than square inches, for a page always contains a certain fixed number of ems, tho it seldom does of inches. Take a page 22×41 picas, for example, and with a foot rule tell me how many square inches it contains. The narrow way it is three and two-thirds inches, the long way six and five-sixths. The common field variety of rule is graduated to neither thirds nor sixths, for which reason the square-inch estimator must perforce approximate the dimensions in inches unless he happens to know that a pica is a sixth of an inch. If, however, he has this knowledge, he must multiply six and five-sixths by three and two-thirds. He has a problem something like this:

"Eleven-thirds multiplied by forty-one sixths equals four hundred and fifty-one eighteenths. Four hundred and fifty-one divided by eighteen equals twenty-five and one-eighteenth square inches.

"Or he might reduce the dimensions to sixths, when his problem would be:

"Six and five-sixths equals forty-one sixths, three and two-thirds equals twenty-two sixths. Forty-one sixths multiplied by twenty-two sixths equals nine hundred and two sixths. In a square inch are thirty-six sixths. Nine hundred and two sixths divided by thirty-six sixths equal twenty-five and one-eighteenth sixths, or twenty-five and one-eighteenth square inches.

"Were the estimator a practical printer (which all estimators should be), he would first decide as accurately as possible which of the several sizes of body-type the composition would approximate if it were display composition, tho were it straight matter or tabular work he would of course know the body size. Assuming the size to be ten-point leaded, the printer would multiply each dimension of the page by twelve, as there are twelve points to the pica. The problem would be: 22×12 equals 264 points. 264 divided by 10 equals 26.4 lines or ems of ten-point body type.

" 41×12 equals 492 points. 492 divided by 10 equals 49.2 lines or ems of ten-point type.

"The rule with printers is that if the fractional part of an em is less than half it will not be counted; if it is a half or more it will be counted a full em. We have therefore 26×49 ems, which gives us 1,274 ems per page."

Compare the above with the method advocated on the following pages, and draw your own conclusions.

HOW TO FIGURE TYPE COMPOSITION BY KNOWN FACTORS

NO argument is necessary to convince anyone with a little knowledge of composing room details that four 6-point ems are required to exactly and completely fill the space of one 12-point em. Theory and practice agree on this point, and experience has so often and decidedly proven this to be a fact, that no force of persuasion will ever change the printer's mind in this respect.

But, if it is a fact that the smaller type body has a fixed fractional relation to the larger considered singly or individually in the unit of the em—if it is a fact that a certain fixed proportional term or equivalent will express the exact relation of the em of one type body to the em of the other—it *must follow as a natural consequence that the same term can be used to express the exact relation of the two type bodies in question no matter how many ems of the larger type body is to be considered*; it must follow that this fixed relation can be relied upon with mathematical certainty in determining the number of ems in any form of type matter where the 12-point or pica em is the standard of measurement, and that as far as the relation of 6-point to 12-point is concerned it can be expressed by the fixed proportional term 4:1.

Take a type page 25×40 picas in size, for example. Any printer having had a little experience in figuring type composition knows that this page contains 1000 pica ems, because $25 \times 40 = 1000$. He also knows, as stated above, that four 6-point ems are required to fill the space of one 12-point em; consequently he will readily see that if this page is set in 6-point it will contain $1000 \times 4 = 4000$ 6-point ems because of this 4:1 relation between the two type bodies.

Another example: A page 23×41 pica ems in size contains $23 \times 41 = 943$ pica ems, or $23 \times 41 \times 4 = 3772$ 6-point ems, because of the same proportional relation.

Without fear of contradiction it can therefore be stated as a mathematical fact that the number of 6-point ems in any form of type matter of a given number of 12-point ems is equal to the number of these 12-point ems multiplied by the number of 6-point ems contained in a 12-point em, that is, multiplied by the proportional term or equivalent 4.

And this statement can just as positively be followed by another: *The number of ems in a given space and a given body of type is directly proportional to the number of times the unit or em of the type body in question is contained in the unit or em of the standard of measurement, the 12-point or pica em.*

In other words: just as surely and accurately as the number of 6-point ems in a type page of a given number of 12-point ems can be determined by multiplying said number of 12-point ems by the proportional term or equivalent 4, can the number of ems of the same page or any other page be determined in any other size of body type by multiplying its number of 12-point ems by the proportional term or equivalent of that type body as stated below. Being the term expressing the number of times each unit or em of the smaller type body is

HOW TO FIGURE TYPE COMPOSITION BY KNOWN FACTORS

contained in the 12-point unit or em, the equivalent of such type body is always a known factor which must be used as a multiplier of the other known factor, the number of 12-point ems in the type form in question. Briefly stated, therefore, the equivalent is an indicator showing how many times the unit or em of a type body is contained in the 12-point em, as well as how many times said unit or em is contained in a known number of 12-point ems.

It will thus be seen that there is no room for uncertain groping and waste of time and labor. Every operation is one of straight multiplication, and can be successfully performed by anyone having a rudimentary knowledge of this branch of arithmetic. Try it on any page you wish, and see how easily results are obtained.

Having thus established the importance of the equivalent in figuring the type form, the next important step is to find such equivalent for all the type bodies in common use. This we do by reducing each body of type into its smallest possible unit, the square point, and then by dividing the square-point contents of the 12-point em by the square-point contents of the type body we wish to determine. The result obtained by this process shows that the space occupied by the 12-point em in any form of type matter is equal to

1.19	ems of 11	-point
1.44	ems of 10	-point
1.778	ems of 9	-point
2.25	ems of 8	-point
2.94	ems of 7	-point
4.00	ems of 6	-point
4.76	ems of 5½	-point
5.76	ems of 5	-point

and the exact number of ems of any of the type bodies here mentioned in a type form of a stated number of 12-point ems equals this number of 12-point ems multiplied by the equivalent of the type body in question as here given.

This statement we will prove by again referring to the page of 25 x 40 picas in size. As stated before, the page contains 25 x 40 = 1000 12-point ems. To find the number of ems contained in this page of any of the other type bodies mentioned we simply multiply one known factor by the other. For example:

11	-point—1000	× 1.19	= 1190 ems
10	-point—1000	× 1.44	= 1440 ems
9	-point—1000	× 1.778	= 1778 ems
8	-point—1000	× 2.25	= 2250 ems
7	-point—1000	× 2.94	= 2940 ems
6	-point—1000	× 4	= 4000 ems
5½	-point—1000	× 4.76	= 4760 ems
5	-point—1000	× 5.76	= 5760 ems

Therefore, if the number of 12-point ems in the type form are known, and you wish to find how many 11-point ems such type form contains, multiply by 1.19; if 10-point is desired, multiply by 1.44; if 9-point, by 1.778 (or 1.78 if you

wish; it is close enough for all practical purposes); if 8-point, by 2.25, etc., according to the table above.

It will readily be seen that if this method is followed the finding of the correct number of ems in the type form becomes so easy and simple that pencil and paper hardly are required for 6 and 8-point, while the other type bodies having an equivalent of a more complicated decimal number can be figured in less than half the time necessary by any other known method. A few practical illustrations will prove this statement. Let us find the number of 10-point ems in a page 20×35 picas. We first multiply 20×35 to find the number of pica ems, which is 700; then we multiply this 700 by the 10-point equivalent 1.44 because we know there are just 1.44 10-point ems in one pica em, and consequently there must be 700×1.44 in a page containing 700 pica ems. The result obtained is 1008 10-point ems.

The same page contains 700×2.25 (or $2\frac{1}{4}$) = 1575 8-point ems because there are 2.25 ($2\frac{1}{4}$) 8-point ems in each pica em.

Or another: One of the popular weeklies has type pages 57 picas wide by 77 picas deep. It is now set in 8-point. If the publisher of this weekly should decide to change his type matter to 7-point, how much more composition would he have to pay for on each page?

$$\begin{array}{rcl} \text{Solution—} & 57 \times 77 \times 2.94 = & 12904 \\ & 57 \times 77 \times 2.25 = & 9875 \end{array}$$

$$\text{Difference.....} \quad 3029 \text{ ems}$$

Suppose he intended to change to 6-point, what would be the number of 6-point ems in each page?

$$57 \times 77 \times 4 = 17556 \text{ 6-point ems}$$

This, we hope, is sufficient to convince the progressive printer and publisher that if they use known factors in figuring their type matter a lot of valuable time can be saved for better and more profitable purposes. Furthermore, it will give the satisfaction of knowing that the figures obtained are absolutely correct.

As will be noticed, the examples cited above have been of type pages containing one single type size or body. This may possibly lead to the objection that the catalog page, invariably containing two, three and even four sizes or bodies of type, cannot be figured as easily by this method. To find the correct number of ems in the catalog page has always been the bane of the printing estimator and has consumed a lot of his valuable time as well as caused a lot of his worries. As the greatest claim for this new method of figuring type composition is its time-saving possibilities—the quickness by which reliable results can be obtained—it would be inadequate to a degree of worthlessness if it couldn't offer a satisfactory solution of this complicated problem—the quick and reliable figuring of the catalog page. For the benefit of the printing estimator, therefore, as well as for the benefit of all who may have to struggle with this kind of pages, we will prove by a few illustrations how simple and easy the problem becomes when equivalents are used as multipliers and known factors substituted for guesswork.

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Suppose the page in question is taken from a wholesale catalog 50 x 70 picas in size. Our first known factor will be the 3500 pica ems contained in the page. Now suppose that the big part of the type matter is set in 8-point and the rest in 5½-point. For a ready illustration let us say that the 5½-point type matter would fill a space 20 x 20 or 400 pica ems. Then

$$\begin{array}{rcl} \text{Solution—} & (3500 - 400) & 3100 \times 2.25 = 6975 \\ & & 400 \times 4.76 = 1904 \end{array}$$

Total number of ems in page..... 8879

Another page in the same catalog is divided equally between 10, 8, 6 and 5-point. What is the content in ems of the type set?

$$\begin{array}{rcl} \text{Solution—} & (3500 \div 4) & 875 \times 1.44 = 1260 \\ & & 875 \times 2.25 = 1969 \\ & & 875 \times 4 = 3500 \\ & & 875 \times 5.76 = 5040 \end{array}$$

Total number of ems in page 11769

An automobile supply catalog, size 36 x 52 picas, is set in 10 and 6-point. Suppose the type matter set in 6-point would fill the space of 19 x 36 picas on a page. What would the type contents of the page be?

$$\begin{array}{rcl} \text{Solution—} & 36 \times 19 \times 4 & = 2736 \\ & 36 \times 33 \times 1.44 & = 1711 \end{array}$$

Total number of ems in page 4447

Thus it will be seen that not even the catalog page should be a cause of worry in days to come.

Now let us, by an illustration, solve the problem of machine composition in the galley.

A printer received from his linotyper seven galleys of composition, all set 18 ems wide. There were four galleys of 10-point, respectively 120, 128, 130 and 132 picas in length; two galleys of 8-point, 118 and 128 picas in length, and one galley of 6-point, 111 picas long. To find the correct number of ems in the type set the problem is solved in the following manner:

$$\begin{array}{rcl} \text{Solution—} & 120 + 128 + 130 + 132 & = 510 \text{ picas } 10\text{-point} \\ & 118 + 128 & = 246 \text{ picas } 8\text{-point} \\ & 510 \times 18 \times 1.44 & = 13219 \\ & 246 \times 18 \times 2.25 & = 9963 \\ & 111 \times 18 \times 4 & = 7992 \end{array}$$

Total number of ems..... 31174

How many 10-point ems in a galley 125 pica ems long by 21½ pica ems wide?

$$\text{Solution—} \quad 125 \times 21.5 \times 1.44 = 3870$$

How many 8-point ems in a galley 125 picas long by 42 picas wide, according to the rules in force in machine composition offices?

$$\text{Solution—} \quad 125 \times 42 \times 2.25 \times 1.5 = 17719$$

NOTE—In measuring type composition in the galley the same rule is applicable as explained in regard to the type page: Find the number of pica ems in the galley; then multiply by the equivalent of the type body or bodies in question. Where there are many galleys of the same length and width and of the same type body multiply the number of pica ems in one galley by the number of galleys, then by the equivalent in question. A still easier method is advocated under the heading, *Pica for Standard Linotype Galley Length*. A table showing the number of ems in such a galley in all type bodies and in all measures from 10 to 30 ems is given in the reference tables.

We have claimed for this method that it is simple, practical and time and labor-saving; and this claim we have tried to substantiate with abundant proof. There remains, therefore, only one more point to settle: Is it reliable? Can it be depended on to give the correct number of ems in the type page or galley? Although this question could easily be met with the counter question: Is it possible that there are more or less than four 6-point ems in one pica em? the method in itself is so simple that the skeptic may find excuse for his doubt in its simplicity. Furthermore, the history of progress shows that every forward step from the complicated to the simple has been regarded with doubt. We will therefore make a comparison between this method of figuring type composition and the old-time printers' method (which, by the way, still is the prevailing method in most printing offices.) We will again consider the 10-point page mentioned above, 20 x 35 picas in size. According to the method here advocated, this page contains 1008 10-point ems. Of course, we could with propriety claim that any method by which more or less than 1008 10-point ems is found in this page is absolutely wrong in principle, but we will be guided rather by the old rule that proof is better than assertion.

By the old-time method mentioned we first find the number of 10-point ems in the line, which is done by multiplying the number of 12-point ems (20) by 12 and dividing the product by 10. In this way we find that there are 24 10-point ems in the 20-pica line. In the same manner we find that there are 42 10-point lines in the 35-pica depth of the page. Then

$$\text{Solution—} \quad 42 \times 24 = 1008 \text{ 10-point ems}$$

If still more proof is demanded, attention is called to the fact that there are 144 square points in the 12-point em, 100 in the 10-point em, and 64 in the 8-point em. By dividing 144 by 100, 1.44 is the result obtained; by 64, 2.25 is the result. Make yourself a square containning 100 12-point ems, 10 in a row; then make one of 144 10-point ems, 12 in a row, and one of 225 8-point ems, 15 in a row. By comparing them you will find that the three squares occupy exactly the same space. The proportion, therefore, as set forth in the foregoing discussion, must be absolutely correct.

PRACTICAL WAY TO USE REFERENCE TABLES

IT is a matter of every-day experience that, in these days of price cutting and fierce struggle for business, the printer best equipped with labor-saving devices of all kinds is the one carrying away the plums. The printer's customer is generally a busy one, whose time is valuable. As such he asks quick action, and can hardly be expected to look with favor on anyone taking more of his time than absolute necessity demands, be it in the production of his order or in estimating its cost. The printer, therefore, who finds it necessary to use pencil and paper in long, tedious calculation of the composition cost of a page of stated size and type body, is not likely to remain long in his favor. He will expect him to be in possession of the necessary data to settle such details with the least possible loss of time.

With an honest desire to furnish such data in the most practical and reliable manner, the reference tables contained in this book have been worked out. The object in view has been to save the printer's time. To that end special attention has been given the page containing more than one size of body type.

Suppose you wish to find the number of ems in a page 23 x 42 pica ems in size. 18 pica ems in length of this page are set in 10-point, 14 in 8-point, and 10 in 6-point. By referring to the page where the 23-em quotations are given, you will find under the respective headings:

$$\begin{array}{l} 6\text{-point}—23 \times 10 = 920 \\ 8\text{-point}—23 \times 14 = 725 \\ 10\text{-point}—23 \times 18 = 596 \end{array}$$

By adding the numbers together you have the correct number of ems in the page.

Follow this method in all cases where there are more than one type body in the page.

PLEA FOR STANDARD LINOTYPE GALLEY LENGTH

BY considering the example given above of the printer receiving seven galleys of linotype composition from the machine office, no two of which were of the same length, the question will of necessity present itself: Why were not these galleys made up in even lengths, or as many of them as could conveniently so be arranged? This question leads to another: Why have not the machine offices adopted a standard galley length?

There are at least three strong reasons why every machine office selling linotype composition to the trade, or otherwise handling linotype composition to any extent, should adopt such a standard galley length.

FIRST—Because it saves valuable time and increases the profit. If a standard galley length of, say 22 inches, is adopted, and the operators are instructed to

fill their galleys accordingly, the dreary task of measuring the strings can be more or less dispensed with. What now generally takes the biggest part of the forenoon of a well-paid employe, can be accomplished in half an hour. Clear gain—a lot of *valuable time*.

SECOND—Because the front office will at all times know where the precious linotype metal is located without having to depend on the figures handed in by careless office boys. This applies in the same measure to the customer who must account for the metal received. Clear gain—*less friction between the linotyper and his customer in regard to metal received and shipped*.

THIRD—Because the customer will be pleased. He knows, or is very likely to find out, that there is no reason under the sun why his 10, 12 or 14 galleys of 10-point, all set to the same measure, can not be delivered to him in strings of the same length. His time is as valuable as the next man's, and he may not be able to see why he should be forced to waste it in measuring his galley proofs. Clear gain—*satisfaction where it is worth something*.

Have a measure made exactly 132 picas in length, and instruct your operators to fill their galleys to the end of that measure, and no more. There is no loss of time, and the result will be immediately appreciated by all directly concerned.

For the number of ems in such a galley in all type bodies from 5 to 12-point, and in all widths from 10 to 30 ems, half measures included, see pages 13 and 14.

HOW TO ESTIMATE WEIGHT OF LINOTYPE COMPOSITION

THE publisher of a weekly, semi-monthly or monthly publication, as well as the printer engaged in the production of technical or scientific books requiring many proofs, often are forced to have considerable quantities of linotype metal tied up from one month to another. This metal must be paid for by somebody, and the interest on such an investment must come out of somebody's pocket. To know with certainty how many pounds of linotype metal are required for a galley of composition of a certain number of ems or for a book page of a certain size, is therefore a matter of interest to them. For their benefit, therefore, we will show how linotype metal can be correctly estimated, in fact, as correctly estimated as it can be weighed on any ordinary scale.

Linotype slugs, as they come from the machine in an average day's run in linotype offices where good slugs are required, weighs 7 pounds for each 1000 pica ems for all faces up to and including 10-point; 11 and 12-point, 6 $\frac{7}{8}$ pounds. This is for solid slugs, free from air holes and trimmed correctly to the fraction of a point. 8-point set on a 10-point slug, or 10-point set on a 12-point slug, weighs a trifle more than 6 $\frac{3}{4}$ pounds per 1000 pica ems. A galley 22 inches long weighs 1 pound for each pica em in width for all measures up to and including 13 pica ems; that is, a galley of linotype composition 13 picas wide and 22 inches long, weighs 13 pounds; between 13 and 20 ems in width, a trifle less than a pound per pica width, varying about $\frac{1}{8}$ to $\frac{1}{4}$ pound to the galley as the measure increases. A galley 20 pica ems wide weighs about 19 $\frac{3}{4}$ pounds; a galley 25 pica ems wide about 24 $\frac{1}{2}$ pounds, and a galley 30 pica ems wide about 29 $\frac{3}{8}$ pounds. This too,

is for a solid slug as mentioned above. For a slug 2 points thicker than the face, deduct $\frac{3}{8}$ pound for measures of 13 pica ems or less in width; $\frac{1}{2}$ pound for measures 14, 15 and 16 pica ems in width; $\frac{3}{4}$ pound for measures from 17 to 20 pica ems in width, and 1 pound for all measures above 20 pica ems in width. This will come as close to the point as estimating an uncertain thing is possible, and will give satisfactory results. Furthermore, if you should in some way be the loser of a pound in one hundred, you can safely add a like amount as clear profit because of the labor and time saved.

RULES GOVERNING SALE OF MACHINE COMPOSITION

THE following rules governing the production and sale of machine composition, have been adopted by the Chicago Machine Composition Club, and are enforced in all offices belonging to this club:

The minimum line measure is 20 ems of the type set.

Copy intended for the machine should be legible and edited. Copy furnished in books, written on both sides of the paper, or in any form which prevents it being readily handled, or poorly prepared copy, is objectionable matter.

Type larger than 11-point will be charged as 10-point and charged at 10-point price.

Counted lines to run around cuts, initial letters, etc., will be charged at double price and measured the full width of the job.

Matter set over 30 ems will be charged price and one-half; if lines contain small caps, italics or black face, double price.

A minimum charge of 50 cents for each alteration will be made where no change of machine is required. Where change of machine or type is required, charge will be made on time basis.

An extra charge on time basis will be made for assembling on galleys, two or more faces of type, heads, etc.

All jobs of less than 5000 ems to be charged on the basis of hand composition.

Matter containing a large proportion of figures or other technical matter will be considered as objectionable matter and charged on basis of time work.

All matter which requires lines to be centered, price and one-half; where centered over 30 ems, time work.

Lines with small caps, bold face or italics shall be charged two lines for one; 50 ems extra will be charged for each character inserted by hand.

Captions over tabular matter to be set on time work only. Captions under cuts charged as double price.

Jobs running in all italics or all black face will be charged at price and one-half; where both are used in the same job, the charge will be on time basis.

Matter running line for line is objectionable matter.

Leader work is price and one-half; with two justifications, double price.

An extra charge will be made for Cheltenham and other "skinny" type.

All metal must be paid for or returned within 30 days or a rental charge of $\frac{1}{2}$ cent per pound per month will be charged.

Minimum charge, \$1.00.

REFERENCE TABLES

*Showing the Correct Number of Ems
in the Galley or Type Page*

NUMBER OF EMS IN 22-INCH (132 PICA EMS) GALLEY

Width of Galley in Pica Ems		5-pt.	5½-pt.	6-pt.	7-pt.	8-pt.	10-pt.	11-pt.	12-pt.
10	.....	7604	6283	5280	3880	2970	1901	1570	1320
10	*.....	7604	6283	5280	4520	3960	3168	.....	.....
11	.....	8364	6911	5708	4268	3267	2091	1727	1452
11	*.....	8364	6911	5708	4520	3960	3168	.....	.....
12	.....	9124	7539	6336	4656	3564	2281	1884	1584
12	*.....	9124	7539	6336	4656	3960	3168	.....	.....
12½	.....	9504	7853	6600	4850	3712	2376	1963	1650
12½*	.....	9504	7853	6600	4850	3960	3168	.....	.....
13	.....	9884	8167	6864	5044	3860	2471	2041	1716
13	*.....	9884	8167	6864	5044	3960	3168	.....	.....
13½	.....	10264	8482	7128	5238	4008	2566	2120	1782
13½*	.....	10264	8482	7128	5238	4008	3168	.....	.....
14	.....	10644	8796	7392	5432	4158	2661	2198	1848
14	*.....	10644	8796	7392	5432	4158	3168	.....	.....
14½	.....	11024	9110	7656	5626	4304	2756	2277	1914
14½*	.....	11024	9110	7656	5626	4304	3168	.....	.....
15	.....	11404	9424	7920	5820	4452	2851	2355	1980
15	*.....	11404	9424	7920	5820	4452	3168	.....	.....
15½	.....	11784	9738	8184	6014	4600	2946	2434	2046
15½*	.....	11784	9738	8184	6014	4600	3168	.....	.....
16	.....	12164	10052	8448	6208	4748	3041	2512	2112
16	*.....	12164	10052	8448	6208	4748	3168	.....	.....
16½	.....	12544	10367	8712	6402	4896	3136	2591	2178
16½*	.....	12544	10367	8712	6402	4896	3168	.....	.....
17	.....	12924	10681	8976	6596	5044	3231	2669	2244
17½	.....	13304	10995	9240	6790	5192	3326	2748	2310
18	.....	13684	11309	9504	6984	5346	3421	2826	2376
18½	.....	14064	11624	9768	7178	5488	3516	2905	2442
19	.....	14444	11938	10032	7372	5636	3611	2983	2508
19½	.....	14824	12252	10296	7566	5784	3706	3063	2574
20	.....	15208	12566	10560	7760	5940	3802	3142	2640
20½	.....	15588	12880	10824	7954	6090	3897	3221	2706
21	.....	15968	13194	11088	8148	6140	3992	3299	2772
21½	.....	16348	13508	11352	8342	6290	4087	3378	2838
22	.....	16728	13822	11616	8537	6440	4183	3456	2904
22½	.....	17108	14137	11880	8731	6590	4277	3535	2970
23	.....	17488	14451	12144	8926	6739	4371	3613	3036

*See Rules Governing Sale of Machine Composition.

NUMBER OF EMS IN 22-INCH (132 PICA EMS) GALLEY

Width of Galley in Pica Ems	5-pt.	5½-pt.	6-pt.	7-pt.	8-pt.	10-pt.	11-pt.	12-pt.
23½	17868	14765	12408	9120	6888	4467	3691	3102
24	18248	15079	12672	9314	7128	4562	3770	3168
24½	18628	15392	12936	9508	7277	4657	3848	3234
25	19008	15706	13200	9702	7426	4752	3927	3300
25½	19388	16020	13464	9896	7575	4847	4005	3366
26	19768	16334	13728	10090	7722	4942	4084	3432
26½	20148	16648	13992	10284	7871	5037	4162	3498
27	20528	16963	14256	10478	8020	5132	4241	3564
27½	20908	17277	14520	10671	8168	5227	4319	3630
28	21288	17591	14984	10866	8316	5322	4398	3696
28½	21668	17905	15048	11060	8465	5417	4476	3762
29	22048	18219	15312	11254	8615	5512	4555	3828
29½	22428	18543	15576	11448	8763	5607	4633	3894
30	22808	18849	15840	11642	8910	5702	4712	3960

NUMBER OF EMS IN TYPE PAGE

Size Type Page in Pica Ems	5-pt.	5½-pt.	6-pt.	7-pt.	8-pt.	10-pt.	11-pt.	12-pt.
10x14	806	666	560	412	315	202	167	140
10x14*.....	806	666	560	480	420	336	.....	.....
11x16	1014	838	704	517	396	253	209	176
11x16*.....	1014	838	704	548	480	384	.....	.....
11x17	1077	890	748	550	421	269	222	187
11x17*.....	1077	890	748	580	510	408	.....	.....
11x18	1140	940	792	583	446	285	235	198
11x18*.....	1140	940	792	620	540	432	.....	.....
12x17	1176	971	816	600	459	294	243	204
12x17*.....	1176	971	816	600	510	408	.....	.....
12x18	1244	1028	864	635	486	311	257	216
12x18*.....	1244	1028	864	635	540	432	.....	.....
12x19	1313	1085	912	670	513	328	271	228
12x19*.....	1313	1085	912	670	570	456	.....	.....
12x20	1382	1142	960	706	540	345	285	240
12x20*.....	1382	1142	960	706	600	480	.....	.....
13x18	1348	1112	936	688	527	337	278	234
13x18*.....	1348	1112	936	688	540	432	.....	.....

*See Rules Governing Sale of Machine Composition.

HOW TO FIGURE TYPE COMPOSITION BY KNOWN FACTORS

NUMBER OF EMS IN TYPE PAGE

Size Type Page in Pica Ems	5-pt.	5½-pt.	6-pt.	7-pt.	8-pt.	10-pt.	11-pt.	12-pt.
13x19	1423	1172	988	726	556	356	294	247
13x19*.....	1423	1172	988	726	570	456	.....	.....
13x20	1498	1238	1040	764	585	375	309	260
13x20*.....	1498	1238	1040	764	600	480	.....	.....
13x21	1572	1299	1092	802	614	394	324	273
13x21*.....	1572	1299	1092	802	630	504	.....	.....
13x22	1647	1361	1144	840	643	412	340	286
13x22*.....	1647	1361	1144	840	660	528	.....	.....
13x26	1947	1607	1352	993	761	486	402	338
13x26*.....	1947	1607	1352	993	780	624	.....	.....
13x27	2022	1668	1404	1331	790	505	418	351
13x27*.....	2022	1668	1404	1031	810	648	.....	.....
13x28	2097	1733	1456	1070	819	524	433	364
13x28*.....	2097	1733	1456	1070	840	672	.....	.....
14x20	1613	1333	1120	823	630	403	333	280
14x20*.....	1613	1333	1120	823	630	480	.....	.....
14x21	1693	1400	1176	864	662	423	350	294
14x21*.....	1693	1400	1176	864	662	504	.....	.....
14x22	1773	1468	1232	905	693	443	367	308
14x22*.....	1773	1468	1232	905	693	528	.....	.....
14x28	2258	1866	1568	1152	882	564	467	392
14x28*.....	2258	1866	1568	1152	882	672	.....	.....
14x29	2338	1934	1624	1193	913	585	483	406
14x29*.....	2338	1934	1624	1193	913	796	.....	.....
14x30	2419	1999	1680	1235	945	605	500	420
14x30*.....	2419	1999	1680	1235	945	720	.....	.....
15x21	1815	1500	1260	926	709	454	375	315
15x21*.....	1815	1500	1260	926	709	504	.....	.....
15x22	1901	1572	1320	970	741	475	393	330
15x22*.....	1901	1572	1320	970	741	528	.....	.....
15x23	1988	1643	1380	1014	775	497	411	345
15x23*.....	1988	1643	1380	1014	775	552	.....	.....
15x24	2074	1714	1440	1058	809	518	429	360
15x24*.....	2074	1714	1440	1058	809	576	.....	.....
15x30	2592	2142	1800	1323	1013	648	536	450
15x30*.....	2592	2142	1800	1323	1013	720	.....	.....
15x31	2678	2213	1860	1367	1046	670	554	465
15x31*.....	2678	2213	1860	1367	1046	744	.....	.....

*See Rules Governing Sale of Machine Composition.

HOW TO FIGURE TYPE COMPOSITION BY KNOWN FACTORS

NUMBER OF EMS IN TYPE PAGE

Size Type Page in Pica Ems	5-pt.	5½-pt.	6-pt.	7-pt.	8-pt.	10-pt.	11-pt.	12-pt.
15x32	2765	2285	1920	1411	1080	691	572	480
15x32*	2765	2285	1920	1411	1080	768	.....	.....
16x 5	462	361	320	235	180	115	95	80
16x 5*	462	361	320	235	180	120	.....	.....
16x 6	553	457	384	282	216	138	114	96
16x 6*	553	457	384	282	216	144	.....	.....
16x 7	645	533	448	329	252	161	133	112
16x 7*	645	533	448	329	252	168	.....	.....
16x 8	737	609	512	376	288	184	152	128
16x 8*	737	609	512	376	288	192	.....	.....
16x 9	830	685	576	423	324	407	171	144
16x 9*	830	685	576	423	324	216	.....	.....
16x10	922	762	640	470	360	230	190	160
16x10*	922	762	640	470	360	240	.....	.....
16x11	1015	838	704	517	396	253	209	176
16x11*	1015	838	704	517	396	264	.....	.....
16x12	1107	914	768	564	432	276	228	192
16x12*	1107	914	768	564	432	288	.....	.....
16x13	1199	990	832	611	468	299	247	208
16x13*	1199	990	832	611	468	312	.....	.....
16x14	1291	1066	896	658	504	323	266	224
16x14*	1291	1066	896	658	504	336	.....	.....
16x15	1384	1143	960	705	540	346	286	240
16x15*	1384	1143	960	705	540	360	.....	.....
16x16	1476	1219	1024	752	576	369	305	256
16x16*	1476	1219	1024	752	576	384	.....	.....
16x17	1568	1295	1088	800	612	392	324	272
16x17*	1568	1295	1088	800	612	408	.....	.....
16x18	1660	1371	1152	847	648	415	343	288
16x18*	1660	1371	1152	847	648	432	.....	.....
16x19	1752	1448	1216	894	684	437	362	304
16x19*	1752	1448	1216	894	684	456	.....	.....
16x20	1843	1523	1280	941	720	461	381	320
16x20*	1843	1523	1280	941	720	480	.....	.....
16x21	1935	1599	1344	988	756	484	400	336
16x21*	1935	1599	1344	988	756	504	.....	.....
16x22	2028	1676	1408	1035	792	507	419	352
16x22*	2028	1676	1408	1035	792	528	.....	.....
16x23	2120	1753	1472	1082	828	530	438	368

*See Rules Governing Sale of Machine Composition.

HOW TO FIGURE TYPE COMPOSITION BY KNOWN FACTORS

NUMBER OF EMS IN TYPE PAGE

Size Type Page in Pica Ems	5-pt.	5½-pt.	6-pt.	7-pt.	8-pt.	10-pt.	11-pt.	12-pt.
16x23*.....	2120	1753	1472	1082	828	552	.....	.....
16x24.....	2212	1828	1536	1129	864	553	457	384
16x24*.....	2212	1828	1536	1129	864	576	.....	.....
16x25.....	2304	1904	1600	1176	900	576	476	400
16x25*.....	2304	1904	1600	1176	900	600	.....	.....
16x26.....	2397	1980	1664	1223	936	599	495	416
16x26*.....	2397	1980	1664	1223	936	624	.....	.....
16x27.....	2489	2059	1728	1270	972	622	514	432
16x27*.....	2489	2059	1728	1270	972	648	.....	.....
16x28.....	2582	2132	1792	1317	1008	645	533	448
16x28*.....	2582	2132	1792	1317	1008	672	.....	.....
16x29.....	2673	2209	1856	1364	1044	668	552	464
16x29*.....	2673	2209	1856	1364	1044	696	.....	.....
16x30.....	2765	2285	1920	1411	1080	691	571	480
16x30*.....	2765	2285	1920	1411	1080	720	.....	.....
16x31.....	2857	2361	1984	1458	1116	714	590	496
16x31*.....	2857	2361	1984	1458	1116	744	.....	.....
16x32.....	2949	2437	2048	1505	1152	737	609	512
16x32*.....	2949	2437	2048	1505	1152	768	.....	.....
16x33.....	3041	2513	2112	1552	1188	760	628	528
16x33*.....	3041	2513	2112	1552	1188	792	.....	.....
16x34.....	3133	2589	2176	1599	1224	783	647	544
16x34*.....	3133	2589	2176	1599	1224	816	.....	.....
16x35.....	3226	2666	2240	1646	1260	806	666	560
16x35*.....	3226	2666	2240	1646	1260	840	.....	.....
16x36.....	3318	2742	2304	1693	1296	829	685	576
16x36*.....	3318	2742	2304	1693	1296	864	.....	.....
16x37.....	3410	2818	2368	1740	1332	852	704	592
16x37*.....	3410	2818	2368	1740	1332	888	.....	.....
16x38.....	3502	2894	2432	1788	1368	876	723	608
16x38*.....	3502	2894	2432	1788	1368	912	.....	.....
16x39.....	3594	2970	2496	1835	1404	899	742	624
16x39*.....	3594	2970	2496	1835	1404	936	.....	.....
16x40.....	3686	3046	2560	1882	1440	922	762	640
16x40*.....	3686	3046	2560	1882	1440	960	.....	.....
17x 5.....	490	405	340	250	191	122	101	85
17x 6.....	586	486	408	300	230	146	122	102
17x 7.....	684	566	476	350	268	171	142	119
17x 8.....	782	647	544	400	306	195	162	136

*See Rules Governing Sale of Machine Composition.

HOW TO FIGURE TYPE COMPOSITION BY KNOWN FACTORS

NUMBER OF EMS IN TYPE PAGE

Size Type Page in Pica Ems	5-pt.	5½-pt.	6-pt.	7-pt.	8-pt.	10-pt.	11-pt.	12-pt.
17x 9	880	728	612	450	344	220	182	153
17x10	979	809	680	500	383	244	202	170
17x11	1077	890	748	550	421	269	224	187
17x12	1175	971	816	600	459	293	242	204
17x13	1273	1052	884	650	497	318	263	221
17x14	1371	1133	952	700	536	342	283	238
17x15	1469	1214	1020	750	574	367	303	255
17x16	1567	1295	1088	800	612	391	323	272
17x17	1665	1376	1156	850	650	416	343	289
17x18	1763	1457	1224	900	689	440	364	306
17x19	1861	1537	1292	950	727	465	384	323
17x20	1968	1618	1360	1000	765	489	404	340
17x21	2056	1699	1428	1050	803	514	424	357
17x22	2154	1780	1496	1100	842	539	444	374
17x23	2252	1861	1564	1150	880	564	464	391
17x24	2350	1942	1632	1200	918	588	485	408
17x25	2448	2023	1700	1250	956	613	505	425
17x26	2546	2104	1768	1300	995	637	525	442
17x27	2644	2185	1836	1350	1033	662	545	459
17x28	2742	2266	1904	1400	1071	686	566	476
17x30	2938	2428	2040	1499	1148	733	606	510
17x31	3036	2509	2108	1549	1186	759	626	527
17x32	3134	2590	2176	1599	1224	784	647	544
17x33	3231	2670	2244	1649	1262	808	668	561
17x34	3329	2751	2312	1699	1301	832	688	578
17x35	3427	2832	2380	1749	1339	857	708	595
17x36	3525	2913	2448	1799	1377	881	728	612
17x37	3623	2994	2516	1849	1415	906	749	629
17x38	3721	3075	2584	1899	1454	930	769	646
17x39	3819	3156	2652	1949	1492	955	789	663
17x40	3917	3237	2720	1999	1530	979	809	680
18x 5	518	428	360	265	203	130	107	90
18x 6	622	514	432	317	243	156	128	108
18x 7	726	600	504	370	284	182	150	126
18x 8	830	685	576	423	324	207	171	144
18x 9	933	771	648	476	365	233	193	162
18x10	1037	857	720	529	405	259	214	180
18x11	1141	943	792	581	446	285	236	198
18x12	1245	1028	864	636	486	311	257	216
18x13	1348	1114	936	689	527	337	279	234

HOW TO FIGURE TYPE COMPOSITION BY KNOWN FACTORS

NUMBER OF EMS IN TYPE PAGE

Size Type Page in Pica Ems	5-pt.	5½-pt.	6-pt.	7-pt.	8-pt.	10-pt.	11-pt.	12-pt.
18x14	1452	1200	1008	742	567	363	300	252
18x15	1556	1285	1080	794	608	389	321	270
18x16	1659	1371	1152	847	648	414	342	288
18x17	1763	1457	1224	900	689	440	364	306
18x18	1867	1542	1296	953	729	467	385	324
18x19	1970	1628	1368	1006	770	492	407	342
18x20	2074	1714	1440	1058	810	518	428	360
18x21	2178	1799	1512	1112	851	544	450	378
18x22	2282	1885	1584	1165	891	570	471	396
18x23	2385	1971	1656	1217	932	596	493	414
18x24	2489	2057	1728	1270	972	622	514	432
18x25	2593	2142	1800	1323	1013	648	536	450
18x26	2697	2228	1872	1376	1053	674	557	468
18x27	2800	2314	1944	1429	1094	700	579	486
18x28	2904	2400	2016	1482	1134	726	600	504
18x29	3007	2486	2088	1534	1175	752	622	522
18x30	3110	2571	2160	1587	1215	778	643	540
18x31	3214	2657	2232	1640	1256	804	665	558
18x32	3318	2743	2304	1693	1296	829	686	576
18x33	3421	2829	2376	1745	1337	855	708	594
18x34	3525	2913	2448	1798	1377	881	729	612
18x35	3629	2999	2520	1852	1418	907	750	630
18x36	3732	3084	2592	1905	1458	933	771	648
18x37	3836	3170	2664	1958	1499	959	793	666
18x38	3940	3256	2736	2011	1539	985	814	684
18x39	4044	3342	2808	2064	1580	1011	835	702
18x40	4147	3427	2880	2117	1620	1037	857	720
19x 5	547	452	380	280	214	137	113	95
19x 6	656	543	456	335	256	164	136	114
19x 7	766	634	532	391	299	191	158	133
19x 8	875	724	608	447	342	219	181	152
19x 9	985	814	684	503	385	246	203	171
19x10	1094	904	760	559	428	274	226	190
19x11	1204	995	836	614	470	301	249	209
19x12	1313	1085	912	670	513	328	271	228
19x13	1423	1176	988	726	556	355	294	247
19x14	1532	1266	1064	782	599	383	317	266
19x15	1642	1357	1140	838	641	410	339	285
19x16	1751	1447	1216	894	684	437	362	304
19x17	1861	1538	1292	950	727	464	384	323

HOW TO FIGURE TYPE COMPOSITION BY KNOWN FACTORS

NUMBER OF EMS IN TYPE PAGE

Size Type Page in Pica Ems	5-pt.	5½-pt.	6-pt.	7-pt.	8-pt.	10-pt.	11-pt.	12-pt.
19x18	1970	1628	1368	1006	770	492	407	342
19x19	2080	1719	1444	1062	813	519	430	361
19x20	2189	1809	1520	1118	855	547	452	380
19x21	2298	1900	1596	1173	898	574	475	399
19x22	2408	1990	1672	1229	941	601	497	418
19x23	2517	2081	1748	1286	984	629	520	437
19x24	2627	2171	1824	1342	1027	657	543	456
19x25	2736	2261	1900	1397	1069	684	565	475
19x26	2845	2352	1976	1453	1112	711	588	494
19x27	2955	2443	2052	1509	1154	738	610	513
19x28	3064	2533	2128	1564	1197	765	633	532
19x29	3174	2624	2204	1620	1240	793	656	551
19x30	3283	2713	2280	1676	1283	821	678	570
19x31	3393	2804	2356	1732	1325	848	701	589
19x32	3502	2895	2432	1788	1368	876	724	608
19x33	3612	2985	2508	1843	1411	903	746	627
19x34	3721	3076	2584	1899	1454	930	769	646
19x35	3830	3165	2660	1955	1496	958	791	665
19x36	3940	3256	2736	2011	1539	985	814	684
19x37	4049	3346	2812	2067	1582	1012	837	703
19x38	4159	3437	2888	2123	1625	1040	859	722
20x 5	576	476	400	294	225	144	119	100
20x 6	691	571	480	353	270	173	143	120
20x 7	806	666	560	412	315	202	167	140
20x 8	921	761	640	471	360	231	191	160
20x 9	1036	857	720	530	405	260	215	180
20x10	1152	952	800	588	450	288	238	200
20x11	1267	1047	880	647	495	317	262	220
20x12	1382	1142	960	706	540	346	286	240
20x13	1497	1237	1040	765	585	375	310	260
20x14	1612	1332	1120	824	630	404	333	280
20x15	1728	1428	1200	882	675	432	357	300
20x16	1843	1523	1280	941	720	461	381	320
20x17	1958	1618	1360	1000	765	490	405	340
20x18	2073	1713	1440	1059	810	519	429	360
20x19	2188	1808	1520	1118	855	548	453	380
20x20	2304	1904	1600	1176	900	576	476	400
20x21	2419	1999	1680	1235	945	605	500	420
20x22	2534	2094	1760	1294	990	634	524	440
20x23	2649	2189	1840	1353	1035	663	548	460

HOW TO FIGURE TYPE COMPOSITION BY KNOWN FACTORS

NUMBER OF EMS IN TYPE PAGE

Size Type Page in Pica Ems	5-pt.	5½-pt.	6-pt.	7-pt.	8-pt.	10-pt.	11-pt.	12-pt.
20x24	2764	2284	1920	1412	1080	692	572	480
20x25	2880	2380	2000	1470	1125	720	595	500
20x26	2995	2475	2080	1529	1170	750	619	520
20x27	3110	2570	2160	1587	1215	778	643	540
20x28	3225	2665	2240	1646	1260	807	667	560
20x29	3340	2760	2320	1705	1305	836	691	580
20x30	3456	2856	2400	1764	1350	864	714	600
20x31	3571	2951	2480	1822	1395	893	738	620
20x32	3686	3046	2560	1881	1440	922	762	640
20x33	3801	3141	2640	1940	1485	950	785	660
20x34	3916	3236	2720	2019	1530	979	809	680
20x35	4032	3332	2800	2058	1575	1008	833	700
20x36	4147	3427	2880	2117	1620	1037	857	720
20x37	4262	3522	2960	2176	1665	1066	881	740
20x38	4378	3618	3040	2234	1710	1094	904	760
20x39	4493	3713	3120	2293	1755	1123	928	780
20x40	4608	3808	3200	2352	1800	1152	952	800
21x 5	604	500	420	309	236	151	125	105
21x 6	725	600	504	371	283	181	150	126
21x 7	846	700	588	433	330	210	175	147
21x 8	967	800	672	495	377	240	200	168
21x 9	1088	900	756	556	425	271	225	189
21x10	1209	1000	840	617	473	302	250	210
21x11	1330	1100	924	679	520	332	275	231
21x12	1451	1199	1008	741	567	362	300	252
21x13	1572	1299	1092	803	614	393	325	273
21x14	1693	1399	1176	864	662	423	350	294
21x15	1814	1499	1260	926	709	453	375	315
21x16	1935	1599	1344	988	756	484	400	336
21x17	2056	1699	1428	1050	803	514	425	357
21x18	2177	1799	1512	1111	851	544	450	378
21x19	2298	1899	1596	1173	898	575	475	399
21x20	2418	1999	1680	1234	945	605	500	420
21x21	2539	2099	1764	1296	992	635	525	441
21x22	2660	2199	1848	1358	1040	665	550	462
21x23	2781	2299	1932	1420	1087	696	575	483
21x24	2902	2399	2016	1481	1134	726	600	504
21x25	3023	2499	2100	1543	1181	756	625	525
21x26	3144	2599	2184	1605	1229	786	650	546
21x27	3265	2699	2268	1667	1276	817	675	567

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21x28	3386	2799	2352	1728	1323	847	700	588
21x29	3507	2899	2436	1790	1370	877	725	609
21x30	3628	2999	2520	1851	1418	907	750	630
21x31	3749	3099	2604	1913	1465	937	775	651
21x32	3871	3199	2688	1975	1512	968	800	672
21x33	3992	3299	2772	2037	1559	998	825	693
21x34	4113	3399	2856	2098	1607	1028	850	714
21x35	4234	3499	2940	2160	1654	1059	875	735
21x36	4355	3599	3024	2222	1701	1089	900	756
21x37	4476	3699	3108	2284	1749	1119	925	777
21x38	4595	3799	3192	2346	1796	1149	950	798
21x39	4716	3899	3276	2408	1843	1179	975	819
21x40	4837	3998	3360	2470	1890	1210	1000	840
21x41	4958	4098	3444	2531	1937	1240	1025	861
21x42	5079	4198	3528	2593	1985	1270	1050	882
21x43	5200	4298	3612	2655	2032	1300	1075	903
22x 5	634	524	440	323	248	158	131	110
22x 6	761	629	528	388	298	190	157	132
22x 7	888	734	616	453	347	222	183	154
22x 8	1015	838	704	517	397	254	209	176
22x 9	1141	943	792	582	446	285	235	198
22x10	1267	1047	880	647	495	317	262	220
22x11	1394	1152	968	711	545	349	288	242
22x12	1521	1257	1056	776	594	381	314	264
22x13	1648	1361	1144	841	644	412	340	286
22x14	1774	1466	1232	906	693	444	366	308
22x15	1901	1571	1310	970	743	476	392	330
22x16	2028	1676	1408	1035	792	507	418	352
22x17	2155	1780	1596	1100	842	539	445	374
22x18	2281	1885	1584	1164	891	571	471	396
22x19	2408	1990	1672	1229	941	602	497	418
22x20	2534	2094	1760	1294	990	634	524	440
22x21	2661	2199	1848	1358	1040	666	550	462
22x22	2788	2304	1936	1423	1089	697	576	484
22x23	2915	2409	2024	1488	1139	729	602	506
22x24	3041	2513	2112	1552	1188	761	628	528
22x25	3168	2618	2200	1617	1238	792	654	550
22x26	3259	2723	2288	1681	1287	824	681	572
22x27	3422	2827	2376	1746	1337	856	707	594
22x28	3549	2932	2464	1811	1386	887	733	616

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Size Type Page in Pica Ems	5-pt.	5½-pt.	6-pt.	7-pt.	8-pt.	10-pt.	11-pt.	12-pt.
22x29	3676	3037	2552	1876	1436	919	759	638
22x30	3802	3142	2640	1940	1485	950	785	660
22x31	3929	3246	2728	2005	1535	982	812	682
22x32	4056	3351	2816	2070	1584	1014	838	704
22x33	4182	3456	2904	2134	1634	1045	864	726
22x34	4309	3560	2992	2199	1683	1077	890	748
22x35	4436	3665	3080	2264	1733	1109	916	770
22x36	4563	3770	3168	2328	1782	1140	942	792
22x37	4687	3875	3256	2393	1832	1172	968	814
22x38	4814	3979	3344	2458	1882	1204	994	836
22x39	4942	4084	3432	2522	1931	1235	1021	858
22x40	5069	4189	3520	2687	1980	1267	1047	880
22x41	5196	4294	3608	2752	2030	1298	1073	902
22x42	5322	4398	3696	2817	2079	1330	1100	924
22x43	5449	4503	3764	2881	2129	1362	1128	946
22x44	5556	4608	3852	2946	2178	1394	1152	968
23x 5	662	547	460	338	259	166	137	115
23x 6	795	657	552	406	311	199	164	138
23x 7	927	766	644	474	362	232	191	161
23x 8	1060	876	736	541	414	265	218	184
23x 9	1192	985	828	609	466	298	247	207
23x10	1325	1095	920	676	518	331	274	230
23x11	1458	1204	1012	744	569	364	301	253
23x12	1590	1314	1104	812	621	397	328	276
23x13	1723	1423	1196	878	673	431	356	299
23x14	1855	1533	1288	946	725	464	383	322
23x15	1987	1642	1380	1014	776	497	411	345
23x16	2120	1752	1472	1082	828	530	438	368
23x17	2252	1861	1564	1150	880	563	466	391
23x18	2385	1971	1656	1217	932	596	493	414
23x19	2517	2080	1748	1285	983	629	520	437
23x20	2650	2190	1840	1352	1035	662	547	460
23x21	2782	2299	1932	1420	1087	696	575	483
23x22	2915	2409	2024	1488	1139	729	602	506
23x23	3047	2518	2116	1555	1190	762	630	529
23x24	3180	2628	2208	1623	1242	795	657	552
23x25	3312	2737	2300	1691	1294	828	684	575
23x26	3445	2847	2392	1758	1346	861	712	598
23x27	3577	2956	2484	1826	1397	894	739	621
23x28	3710	3066	2576	1893	1449	927	766	644

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23x29	3842	3175	2668	1961	1501	960	794	667
23x30	3974	3284	2760	2029	1553	994	821	690
23x31	4107	3394	2852	2096	1605	1027	848	713
23x32	4239	3503	2944	2164	1657	1060	876	736
23x33	4372	3613	3036	2231	1708	1093	903	759
23x34	4504	3722	3128	2299	1760	1126	931	782
23x35	4637	3832	3220	2367	1811	1159	958	805
23x36	4769	3941	3312	2434	1863	1192	985	828
23x37	4902	4051	3404	2502	1915	1225	1013	851
23x38	5034	4160	3496	2570	1967	1258	1040	874
23x39	5176	4270	3588	2637	2018	1292	1067	897
23x40	5299	4379	3680	2705	2070	1325	1095	920
23x41	5432	4489	3772	2772	2122	1358	1122	943
23x42	5564	4598	3864	2840	2174	1391	1150	966
23x43	5697	4708	3956	2907	2225	1424	1177	989
23x44	5829	4817	4048	2975	2277	1457	1204	1012
23x45	5962	4926	4140	3043	2329	1491	1232	1035
24x 5	691	571	480	353	270	173	143	120
24x 6	829	685	576	423	324	208	171	144
24x 7	968	800	672	494	378	242	200	168
24x 8	1106	914	768	564	432	277	229	192
24x 9	1244	1028	864	635	486	311	257	216
24x10	1382	1142	960	706	540	346	286	240
24x11	1520	1275	1056	776	594	381	314	264
24x12	1659	1371	1152	847	648	415	343	288
24x13	1797	1485	1248	917	702	450	371	312
24x14	1935	1599	1344	988	756	484	400	336
24x15	2074	1714	1440	1058	810	519	428	360
24x16	2212	1828	1536	1129	864	553	457	384
24x17	2350	1942	1632	1200	918	588	486	408
24x18	2488	2056	1728	1270	972	622	514	432
24x19	2627	2171	1824	1341	1026	657	543	456
24x20	2765	2285	1920	1411	1080	691	571	480
24x21	2902	2399	2016	1482	1134	726	600	504
24x22	3041	2513	2112	1552	1188	760	628	528
24x23	3179	2627	2208	1623	1242	795	657	552
24x24	3318	2742	2304	1693	1296	829	685	576
24x25	3456	2856	2400	1764	1350	864	714	600
24x26	3593	2970	2496	1835	1404	898	743	624
24x27	3732	3085	2592	1905	1458	933	771	648

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24x28	3871	3199	2688	1976	1512	967	800	672
24x29	4009	3313	2784	2046	1566	1002	828	696
24x30	4147	3427	2880	2117	1620	1037	857	720
24x31	4285	3541	2976	2187	1674	1071	885	744
24x32	4424	3656	3072	2258	1728	1106	915	768
24x33	4562	3770	3168	2328	1782	1140	943	792
24x34	4700	3884	3264	2399	1836	1175	972	816
24x35	4838	3998	3360	2469	1890	1209	1000	840
24x36	4977	4113	3456	2540	1944	1244	1028	864
24x37	5115	4227	3552	2610	1998	1278	1057	888
24x38	5253	4341	3648	2681	2052	1313	1085	912
24x39	5391	4456	3744	2751	2106	1347	1114	936
24x40	5530	4570	3840	2822	2160	1382	1142	960
24x41	5668	4684	3936	2893	2214	1416	1171	984
24x42	5806	4798	4032	2964	2268	1451	1200	1008
24x43	5944	4912	4128	3034	2322	1485	1228	1032
24x44	6083	5027	4224	3105	2376	1521	1257	1056
24x45	6221	5141	4320	3175	2430	1555	1285	1080
24x46	6359	5255	4416	3246	2484	1590	1314	1104
24x47	6497	5369	4512	3316	2538	1624	1342	1128
24x48	6636	5484	4608	3387	2592	1659	1371	1152
25x 5	720	595	500	368	281	180	149	125
25x 6	864	714	600	441	338	216	179	150
25x 7	1008	833	700	515	394	252	208	175
25x 8	1152	952	800	588	450	288	238	200
25x 9	1296	1071	900	662	506	324	268	225
25x10	1440	1190	1000	735	563	360	298	250
25x11	1584	1309	1100	809	619	396	328	275
25x12	1728	1428	1200	882	675	432	357	300
25x13	1872	1547	1300	956	731	468	387	325
25x14	2016	1666	1400	1029	788	504	417	350
25x15	2160	1785	1500	1103	844	540	447	375
25x16	2304	1904	1600	1176	900	576	476	400
25x17	2448	2023	1700	1250	956	612	506	425
25x18	2592	2142	1800	1323	1013	648	536	450
25x19	2736	2261	1900	1397	1069	684	565	475
25x20	2880	2380	2000	1470	1125	720	595	500
25x21	3024	2499	2100	1544	1181	756	625	525
25x22	3168	2618	2200	1617	1238	792	654	550
25x23	3312	2737	2300	1691	1294	828	684	575

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Size Type Page in Pica Ems	5-pt.	5½-pt.	6-pt.	7-pt.	8-pt.	10-pt.	11-pt.	12-pt.
25x24	3456	2856	2400	1764	1350	864	714	600
25x25	3600	2975	2500	1838	1406	900	744	625
25x26	3744	3094	2600	1911	1463	936	774	650
25x27	3888	3213	2700	1985	1519	972	803	675
25x28	4032	3332	2800	2058	1575	1008	833	700
25x29	4176	3451	2900	2132	1631	1044	863	725
25x30	4320	3570	3000	2205	1688	1080	893	750
25x40	5760	4760	4000	2940	2250	1440	1190	1000
25x41	5904	4879	4100	3014	2306	1476	1220	1025
25x42	6048	4998	4200	3087	2363	1512	1250	1050
25x43	6192	5117	4300	3161	2419	1548	1279	1075
25x44	6336	5236	4400	3234	2475	1584	1309	1100
25x45	6480	5355	4500	3308	2531	1620	1339	1125
25x46	6624	5474	4600	3381	2588	1656	1369	1150
25x47	6768	5593	4700	3455	2644	1692	1398	1175
25x48	6912	5712	4800	3528	2700	1728	1428	1200
25x49	7056	5831	4900	3602	2756	1764	1458	1225
25x50	7200	5950	5000	3675	2813	1800	1488	1250
26x 5	749	619	520	382	292	187	155	130
26x 6	899	743	624	459	351	225	186	156
26x 7	1048	866	728	535	410	262	217	182
26x 8	1198	990	832	612	468	300	248	208
26x 9	1348	1114	936	688	527	337	278	234
26x10	1498	1238	1040	764	585	374	309	260
26x20	2995	2475	2080	1529	1170	749	619	520
26x30	4493	3713	3120	2293	1755	1123	928	780
26x40	5990	4950	4160	3058	2340	1498	1238	1040
26x41	6140	5074	4264	3134	2399	1535	1269	1066
26x42	6290	5198	4368	3210	2457	1572	1299	1092
26x43	6440	5322	4472	3287	2516	1610	1330	1118
26x44	6590	5445	4576	3363	2574	1647	1361	1144
26x45	6740	5569	4680	3440	2633	1685	1392	1170
26x46	6889	5693	4784	3516	2691	1722	1423	1196
26x47	7039	5817	4888	3592	2750	1760	1454	1222
26x48	7189	5941	4992	3669	2808	1797	1485	1248
26x49	7339	6065	5096	3745	2867	1834	1516	1274
26x50	7488	6188	5200	3822	2925	1872	1547	1300
27x 5	778	643	540	397	304	194	161	135
27x 6	933	771	648	476	365	233	193	162

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27x 7	1089	900	756	556	425	272	225	189
27x 8	1244	1028	864	635	486	311	257	216
27x 9	1400	1157	972	714	547	350	289	243
27x10	1555	1285	1080	794	608	389	321	270
27x20	3110	2570	2160	1588	1215	778	643	540
27x30	4666	3856	3240	2381	1823	1166	964	810
27x40	6220	5141	4320	3175	2430	1555	1285	1080
27x41	6376	5269	4428	3255	2491	1594	1317	1107
27x42	6532	5398	4536	3340	2552	1633	1349	1134
27x43	6687	5526	4644	3413	2612	1672	1383	1161
27x44	6843	5655	4752	3493	2673	1711	1414	1188
27x45	6998	5783	4860	3572	2734	1750	1446	1215
27x46	7154	5912	4968	3651	2795	1788	1478	1224
27x47	7309	6041	5076	3731	2855	1827	1510	1269
27x48	7465	6169	5184	3810	2916	1866	1542	1296
27x49	7621	6298	5292	3889	2977	1905	1574	1323
27x50	7776	6426	5400	3969	3038	1944	1607	1350
28x 5	806	666	560	412	315	202	167	140
28x 6	967	800	672	494	378	242	200	168
28x 7	1128	933	784	576	441	282	233	196
28x 8	1290	1066	896	659	504	323	267	224
28x 9	1552	1200	1008	741	567	363	300	252
28x10	1613	1333	1120	823	630	403	333	280
28x20	3226	2666	2240	1646	1260	806	666	560
28x30	4838	3998	3360	2470	1890	1210	1000	840
28x40	6451	5331	4480	3293	2520	1613	1333	1120
28x41	6612	5464	4592	3375	2583	1653	1366	1148
28x42	6774	5598	4704	3457	2646	1693	1399	1176
28x43	6935	5731	4816	3540	2709	1734	1433	1204
28x44	7096	5864	4928	3622	2772	1774	1466	1232
28x45	7258	5998	5040	3704	2835	1814	1499	1260
28x46	7419	6131	5152	3787	2898	1855	1533	1288
28x47	7580	6264	5264	3869	2961	1895	1566	1316
28x48	7741	6397	5376	3951	3024	1935	1600	1344
28x49	7903	6531	5488	4034	3087	1976	1633	1372
28x50	8064	6664	5600	4116	3150	2016	1666	1400
29x 5	835	690	580	426	326	209	173	145
29x 6	1002	828	696	512	392	251	207	174
29x 7	1169	966	812	597	457	293	242	203

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29x 8	1336	1104	928	682	522	335	276	232
29x 9	1503	1242	1044	767	587	376	311	261
29x10	1670	1380	1160	853	653	418	345	290
29x20	3341	2761	2320	1705	1305	835	690	580
29x30	5011	4141	3480	2558	1958	1253	1035	870
29x40	6682	5522	4640	3410	2610	1670	1380	1160
29x41	6849	5660	4756	3496	2675	1712	1415	1189
29x42	7016	5798	4872	3581	2741	1754	1449	1218
29x43	7183	5936	4988	3666	2806	1796	1484	1247
29x44	7350	6074	5104	3751	2871	1837	1518	1276
29x45	7517	6212	5220	3837	2936	1879	1553	1305
29x46	7684	6350	5336	3922	3001	1921	1587	1334
29x47	7851	6488	5452	4007	3067	1963	1622	1363
29x48	8012	6626	5568	4092	3132	2004	1656	1392
29x49	8185	6764	5684	4178	3197	2046	1691	1421
29x50	8352	6902	5800	4263	3263	2088	1726	1450
30x 5	864	714	600	441	338	216	179	150
30x 6	1037	857	720	529	405	259	214	180
30x 7	1210	1000	840	617	473	302	250	210
30x 8	1382	1142	960	706	540	346	286	240
30x 9	1555	1285	1080	794	608	389	321	270
30x10	1728	1428	1200	880	675	432	357	300
30x20	3456	2856	2400	1764	1350	864	714	600
30x30	5184	4284	3600	2646	2025	1296	1071	900
30x40	6912	5712	4800	3528	2700	1728	1428	1200
30x46	7949	6569	5520	4057	3105	1987	1642	1380
30x47	8122	6712	5640	4145	3173	2030	1678	1410
30x48	8295	6855	5760	4233	3240	2073	1713	1440
30x49	8468	6998	5880	4321	3308	2116	1749	1470
30x50	8640	7140	6000	4410	3375	2160	1785	1500
30x51	8813	7283	6120	4498	3443	2203	1821	1530
30x52	8986	7426	6240	4586	3510	2246	1856	1560
31x 5	893	738	620	456	349	223	184	155
31x10	1786	1476	1240	911	698	446	369	310
31x45	8035	6640	5580	4101	3139	2009	1660	1395
31x50	8928	7378	6200	4557	3488	2232	1845	1550
31x51	9107	7526	6324	4648	3558	2277	1881	1581
31x52	9285	7673	6448	4739	3628	2322	1918	1612
31x53	9464	7821	6572	4830	3698	2366	1955	1643
31x54	9642	7968	6696	4922	3767	2411	1992	1674

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Size Type Page in Pica Ems	5-pt.	5½-pt.	6-pt.	7-pt.	8-pt.	10-pt.	11-pt.	12-pt.
32x 5	922	762	640	470	360	230	190	160
32x10	1843	1523	1280	940	720	461	381	320
32x45	8294	6854	5760	4234	3240	2074	1714	1440
32x50	9216	7616	6400	4704	3600	2304	1904	1600
32x51	9400	7768	6528	4798	3672	2350	1942	1632
32x52	9585	7920	6656	4892	3744	2396	1980	1664
32x53	9769	8073	6784	4986	3816	2442	2018	1696
32x54	9953	8225	6912	5080	3888	2488	2056	1728
32x55	10138	8378	7040	5174	3960	2534	2094	1760
32x56	10322	8530	7168	5268	4032	2580	2132	1792
33x 5	950	785	660	485	371	238	196	165
33x10	1900	1571	1320	970	743	475	393	330
33x50	9504	7854	6600	4851	3713	2376	1964	1650
33x51	9694	8011	6732	4948	3787	2424	2003	1683
33x52	9884	8168	6864	5045	3861	2471	2042	1716
33x53	10074	8325	6996	5142	3935	2519	2081	1749
33x54	10264	8482	7128	5239	4010	2566	2121	1782
33x55	10454	8639	7260	5336	4084	2614	2160	1815
33x56	10644	8796	7392	5433	4158	2661	2199	1848
34x 5	979	809	680	500	383	245	202	170
34x10	1958	1618	1360	1000	765	490	405	340
34x50	9792	8092	6800	4998	3825	2448	2023	1700
34x51	9988	8254	6936	5098	3902	2497	2064	1734
34x52	10184	8416	7072	5198	3978	2546	2104	1768
34x53	10380	8578	7208	5298	4055	2595	2145	1802
34x54	10576	8740	7344	5398	4131	2644	2185	1836
34x55	10771	8901	7480	5498	4208	2693	2225	1870
34x56	10967	9062	7616	5598	4284	2742	2266	1904
34x60	11750	9710	8160	5998	4590	2938	2428	2040
35x 5	1008	833	700	515	394	252	208	175
35x10	2016	1666	1400	1029	788	504	417	350
35x50	10080	8330	7000	5145	3938	2520	2083	1750
35x51	10282	8497	7140	5248	4017	2570	2125	1785
35x52	10483	8663	7280	5351	4096	2621	2166	1820
35x53	10685	8830	7420	5454	4174	2671	2208	1855
35x54	10886	8996	7560	5557	4253	2722	2250	1890
35x55	11088	9163	7700	5660	4331	2772	2291	1925
35x56	11290	9330	7840	5763	4410	2822	2332	1960
35x57	11492	9497	7980	5866	4489	2873	2374	1995

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NUMBER OF EMS IN TYPE PAGE

Size Type Page in Pica Ems	5-pt.	5½-pt.	6-pt.	7-pt.	8-pt.	10-pt.	11-pt.	12-pt.
35x58 .....11693	9663	8120	5969	4568	2923	2416	2030	
35x59 .....11894	9830	8260	6072	4646	2974	2457	2065	
35x60 .....12096	9996	8400	6174	4725	3024	2499	2100	
36x 5 1037	857	720	529	405	259	214	180	
36x10 2074	1714	1440	1058	810	518	428	360	
36x50 .....10368	8568	7200	5292	4050	2592	2142	1800	
36x51 .....10575	8739	7344	5398	4131	2644	2185	1836	
36x52 .....10783	8911	7488	5504	4212	2696	2228	1872	
36x53 .....10990	9082	7632	5610	4293	2748	2271	1908	
36x54 .....11197	9253	7776	5715	4374	2799	2313	1944	
36x55 .....11405	9425	7920	5821	4455	2851	2356	1980	
36x56 .....11612	9596	8064	5927	4536	2903	2399	2016	
36x57 .....11819	9767	8208	6033	4617	2955	2442	2052	
36x58 .....12027	9939	8352	6139	4698	3007	2485	2088	
36x59 .....12234	10110	8496	6245	4779	3059	2528	2124	
36x60 .....12442	10282	8640	6350	4860	3110	2570	2160	
37x 5 1066	881	740	544	416	266	220	185	
37x10 2131	1761	1480	1088	833	533	440	370	
37x50 .....10656	8806	7400	5439	4163	2664	2202	1850	
37x51 .....10869	8982	7548	5548	4246	2717	2246	1887	
37x52 .....11082	9158	7696	5657	4329	2771	2290	1924	
37x53 .....11295	9334	7844	5765	4412	2824	2334	1961	
37x54 .....11508	9510	7992	5874	4496	2877	2378	1998	
37x55 .....11722	9687	8140	5983	4579	2930	2422	2035	
37x56 .....11935	9863	8288	6092	4662	2984	2466	2072	
37x57 .....12148	10039	8436	6200	4745	3037	2510	2109	
37x58 .....12361	10215	8584	6309	4829	3090	2554	2146	
37x59 .....12574	10391	8732	6418	4912	3144	2598	2183	
37x60 .....12787	10567	8880	6527	4995	3197	2642	2220	
40x 5 1152	952	800	588	450	288	238	200	
40x10 2304	1904	1600	1176	900	576	476	400	
40x50 .....11520	9520	8000	5880	4500	2880	2380	2000	
40x60 .....13824	11424	9600	7056	5400	3456	2856	2400	
40x61 .....14054	11614	9760	7174	5490	3514	2904	2440	
40x62 .....14284	11804	9920	7292	5580	3572	2952	2480	
40x63 .....14515	11995	10080	7409	5670	3629	2999	2520	
40x6414745	12185	10240	7527	5760	3686	3047	2560	
40x6514976	12376	10400	7644	5850	3744	3094	2600	

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41x10	2362	1952	1640	1205	923	590	488	410
41x60	14170	11710	9840	7232	5535	3542	2927	2460
41x61	14406	11905	10004	7353	5627	3601	2976	2501
41x62	14642	12100	10168	7473	5720	3660	3026	2542
41x63	14878	12295	10332	7594	5812	3720	3075	2583
42x 5	1210	1000	840	617	473	302	250	210
42x10	2419	1999	1680	1235	945	605	500	420
42x50	12096	9996	8400	6174	4725	3024	2499	2100
42x60	14515	11995	10080	7409	5670	3629	2999	2520
42x61	14757	12195	10248	7532	5765	3689	3049	2562
42x62	14999	12395	10416	7656	5859	3750	3099	2604
42x63	15241	12595	10584	7779	5954	3810	3149	2646
42x64	15483	12795	10752	7903	6048	3871	3199	2688
42x65	15725	12995	10920	8026	6143	3931	3249	2730
42x66	15967	13195	11088	8150	6237	3992	3299	2772
42x70	16934	13994	11760	8644	6615	4234	3499	2940
42x80	19354	15994	13440	9878	7560	4838	3998	3360
44x10	2534	2094	1760	1294	990	643	524	440
44x30	7603	6283	5280	3881	2970	1901	1571	1320
44x50	12672	10472	8800	6468	4950	3168	2612	2200
44x60	15206	12566	10560	7762	5940	3802	3142	2640
44x61	15459	12776	10736	7891	6039	3865	3194	2684
44x62	15713	12985	10912	8020	6138	3928	3246	2728
44x63	15966	13195	11088	8150	6237	3992	3299	2772
44x64	16220	13404	11264	8279	6336	4055	3351	2816
44x65	16473	13614	11440	8408	6435	4118	3403	2860
44x66	16727	13823	11616	8538	6534	4182	3456	2904
44x67	16980	14033	11792	8667	6633	4245	3508	2948
44x68	17234	14242	11968	8796	6732	4308	3560	2992
44x69	17487	14451	12144	8926	6831	4372	3613	3036
44x70	17741	14661	12320	9055	6930	4435	3665	3080
48x10	2765	2285	1920	1411	1080	691	571	480
48x36	9953	8225	6912	5080	3888	2488	2056	1728
48x60	16589	13709	11520	8467	6480	4147	3427	2880
48x64	17695	14623	12288	9032	6912	4424	3656	3072
48x65	17971	14851	12480	9173	7020	4493	3713	3120
48x66	18248	15080	12672	9314	7128	4562	3770	3168
48x67	18524	15308	12864	9455	7236	4631	3827	3216
48x68	18801	15537	13056	9596	7344	4700	3884	3264

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Size Type Page in Pica Ems	5-pt.	5½-pt.	6-pt.	7-pt.	8-pt.	10-pt.	11-pt.	12-pt.
48x6919077	15765	13248	9737	7452	4769	3941	3312	
48x70 .....19354	15994	13440	9878	7560	4838	3998	3360	
50x10 2880	2380	2000	1470	1125	720	595	500	
50x65 .....18720	15470	13000	9555	7313	4680	3868	3250	
50x70 .....20160	16660	14000	10290	7875	5040	4165	3500	
50x71 .....20448	16898	14200	10437	7988	5112	4225	3550	
50x72 .....20736	17136	14400	10584	8100	5184	4284	3600	
50x73 .....21024	17374	14600	10731	8213	5256	4344	3650	
50x74 .....21312	17612	14800	10878	8325	5328	4403	3700	
50x75 .....21600	17850	15000	11025	8438	4500	4463	3750	
50x76 .....21888	18088	15200	11172	8550	5472	4522	3800	
54x10 3110	2570	2160	1588	1215	778	643	540	
54x70 .....21773	17993	15120	11113	8505	5443	4498	3780	
54x71 .....22084	18250	15336	11272	8627	5521	4562	3834	
54x72 .....22395	18507	15552	11431	8748	5599	4626	3888	
54x73 .....22706	18764	15768	11590	8870	5677	4690	3942	
54x74 .....23017	19020	15984	11748	8991	5754	4755	3996	
54x75 .....23328	19278	16200	11907	9113	5832	4820	4050	
54x76 .....23639	19535	16416	12066	9234	5910	4884	4104	
54x77 .....23950	19792	16632	12225	9356	5988	4948	4158	
54x78 .....24261	20049	16848	12383	9477	6065	5012	4212	
56x10 3226	2666	2240	1646	1260	806	666	560	
56x74 .....23871	19725	16576	12183	9324	5967	4931	4144	
56x75 .....24194	19992	16800	12348	9450	6048	4998	4200	
56x76 .....24516	20258	17024	12513	9576	6129	5065	4256	
56x77 .....24839	20525	17248	12677	9702	6209	5131	4312	
56x78 .....25161	20792	17472	12842	9828	6290	5198	4368	
56x79 .....25484	21058	17696	13007	9954	6371	5265	4424	
56x80 .....25806	21325	17920	13171	10080	6451	5331	4480	
57x10 3283	2713	2280	1676	1283	821	678	570	
57x76 .....24952	20620	17328	12736	9747	6238	5155	4332	
57x77 .....25281	20891	17556	12904	9875	6320	5223	4389	
57x78 .....25609	21162	17784	13071	10003	6402	5291	4446	
57x79 .....25937	21434	18012	13239	10131	6484	5359	4503	
57x80 .....26266	21706	18240	13406	10260	6566	5426	4560	
57x81 .....26594	21977	18468	13574	10388	6648	5494	4617	
57x82 .....26922	22248	18696	13742	10517	6731	5562	4674	
57x8327251	22520	18924	13909	10645	6813	5630	4731	
57x8427579	22791	19152	14077	10773	6895	5698	4788	

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